STOCKHOLM UNIVERSITY
Department of Economics

Course name: **Public Finance**

Course code: **EC2106**

Examiner: **Mikael Priks**

Number of credits: **7,5 credits**

Date of exam: **Sunday, 2013-02-24**

Examination time: **3 hours**

Write your identification number on each paper and cover sheet (the number stated in the upper right hand corner on your exam cover).

Do not write answers to more than one question in the same cover sheet. Explain notions/concepts and symbols. Only legible exams will be marked. No aids are allowed.

The exam consists of 3 questions.100 points in total. For the grade E 45 points are required, for D 50 points, C 60 points, B 75 points and A 90 points.

If you think that a question is vaguely formulated: specify the conditions used for solving it.

Results will be posted on mitt.su.se (my studies) on 2013-03-15 the latest

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Good luck!

Exam, Public Finance, 2013-02-24

Mikael Priks

This exam consists of three questions. The first and second question give 40 credits each and the last question gives 20 credits. p denotes prices and q quantities. To get full credit, you need to state and explain your results clearly. Good luck!

Theoretical Tools of Public Finance (40)

a) Explain the substitution effect.

b) What does diminishing marginal utility mean?

c) A budget constraint is given by $Y = P_A Q_A + P_B Q_B$ where Y denotes income, Q_A and Q_B are quantities of goods A and B and P_A are P_B are prices of the goods. Assume now that an individual's income is equal to 100 and that the price of each of the goods is 2. Draw the budget line in a figure with Q_B on the vertical axis and Q_A on the horizontal axis. How many goods of B can the individual consume if he consumes 20 units of good A? Show in the figure.

d) Assume that an individual has the following problem (we use the same notation as in question 1c)

$$\max_{QA,QB} \sqrt{QA * QB}$$

$$st. Y = PAQA + PBQB$$

Solve for the optimal consumption of Q_A and Q_B.

Public Goods (40)

a) What are the two characteristics of a pure public good? Explain briefly.

b) Assume that individual 1 has the marginal valuation 4-q and individual 2 has the marginal valuation 8-q where q is a public good. Show in a figure how the marginal valuation curves should be summed up when the government decides on the optimal level of public good provision. Why are the curves summed in this way?

c) What is the condition for optimal provision of public goods? How is the level of optimal public good provision affected if an additional individual is added to the population valuating the good?

d) Assume that the demand for a public good is p=5-q. Derive the welfare loss if the price can be set to 3. Show in a figure and explain.

Taxation (20)

a) Define the tax wedge.
b) Explain the Laffer curve briefly.